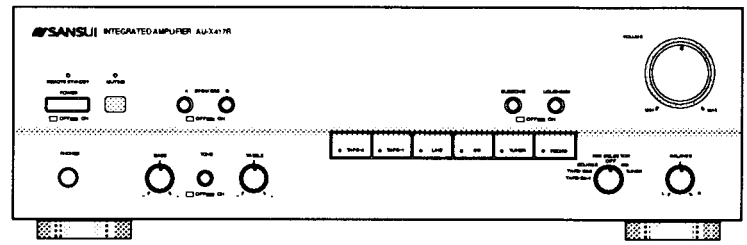
SANSUI

SERVICE MANUAL

AU-X417R
AU-X317

INTEGRATED AMPLIFIER



CAUTION

1. Parts identified the ⚠ symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current for resistance measure ments to determine that exposed parts are accept ably insulated from the supply circuit before returning the appliance to the customer.

Notice

- The symbols,UL,SS,EU,IPT,GE and XX on the Parts list and the schematic diagram mean followings respectively.
  - UL ..... Manufactured for U.S.A market.
  - ..... (Underwriters Laboratories approved model.)
  - SS ..... Manufactured for Saudi Arabian market.
  - EU ..... Manufactured for European market.
  - IPT ..... Manufactured for Italy market.
  - GE ..... Manufactured for F.R. Germany market.
  - XX ..... Standard Version.
  - NON MARK Common Parts.

Specifications

Power output

Min. RMS, both channels driven,from 20 to 20,000Hz,with no more than 0.05% total harmonic distortion.

55 watts per channel into 8 ohms.

DIN

70 watts per channel into 4 ohms.

Load impedance

A,B ..... 4 to 16 ohms
A+B ..... 8 to 16 ohms

Total harmonic distortion ..... less than 0.05%
at or bellow rated min.
RMS power output

Frequency response (at 1 watt)

Overall (from CD) ..... 1 to 100,000 Hz,
+0 dB,-3dB

RIAA curve deviation (PHONO-MM,20Hz to 20 kHz)
..... +0.5 dB,-0.5 dB

Input sensitivity and impedance (at 1 kHz)

PHONO (MC) ..... 400 μV / 100 ohms
PHONO (MM) ..... 3mV / 47 kohms
(Max. input capability: 150 mV at 1 kHz, less than 0.1% total harmonic distortion)
CD,TUNER,LINE ..... 200 mV / 47 kohms
TAPE PLAY-1,2 ..... 200 mV / 47 kohms

Output level (at 1 kHz)

TAPE REC-1,2 ..... 200 mV into 47 kohms

Signal to noise ratio (short-circuit)

PHONO (MC) ..... 65 dB
PHONO (MM) ..... 80 dB
CD,TUNER,LINE ..... 105 dB
TAPE PLAY-1,2 ..... 105 dB

Controls and Filter

BASS ..... ±8 dB at 50 Hz
TREBLE ..... ±8 dB at 15 kHz
SUBSONIC ..... -3 dB at 20 Hz (6 dB/oct)
LOUDNESS ..... +8dB at 50 Hz
(volume:-30 dB position) +4dB at 10 kHz

Power requirement ..... AC 120V / 220V / 240V,
(50 / 60 Hz)
For European ..... AC 230 V (50 Hz)
For U.S.A. & Canada ..... AC 120 V (60 Hz)

Power consumption ..... 290 watts Rated
300 watts Maximum

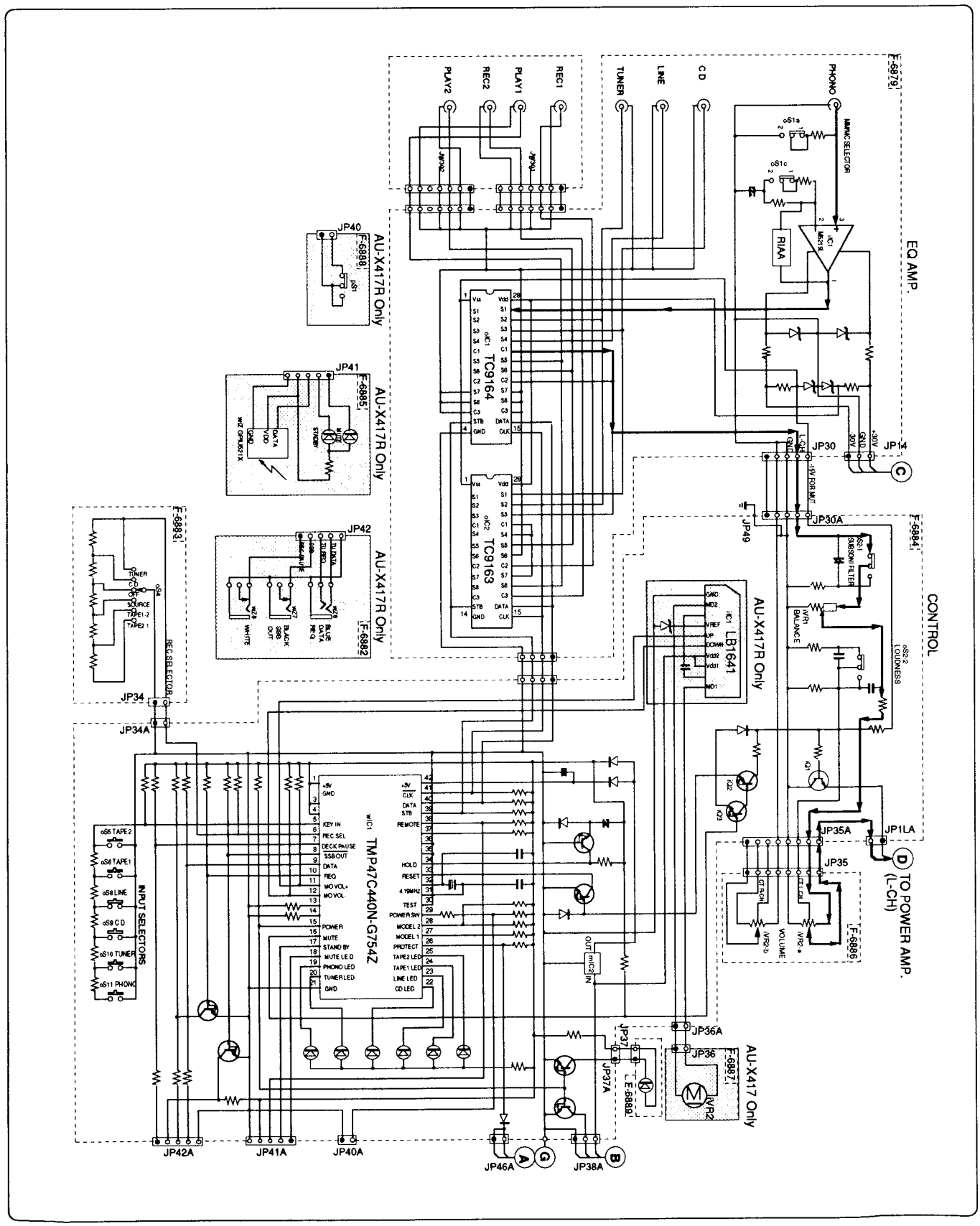
Dimensions ..... 430 mm (16-15/16") W
134 mm (5-5/16") H
314 mm (12-3/8") D

Weight ..... 9.0 kg (19.9 lbs) net

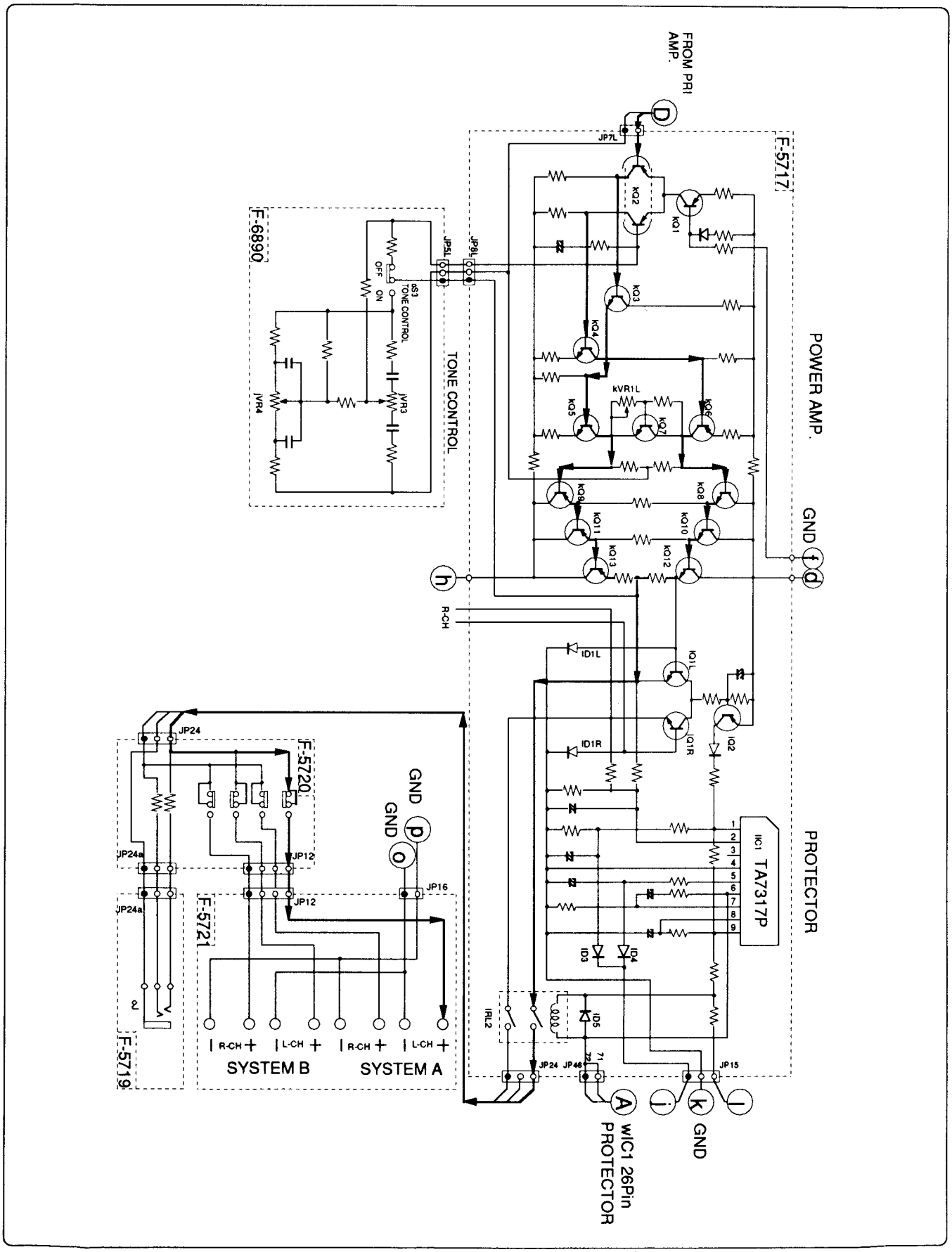
- **Design and specifications subject to changes without notice for improvements.**
- **Due to local laws and regulations, this unit sold in some areas are not equipped with variable voltage selectors.**

1. BLOCK DIAGURAM

1-1. PRI AMPLIFIER SECTION



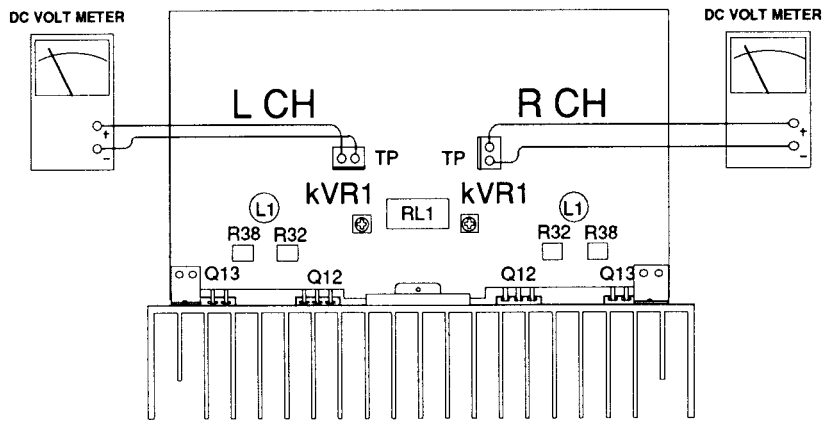
1-2. POWER AMPLIFIER SECTION



2. ADJUSTMENT

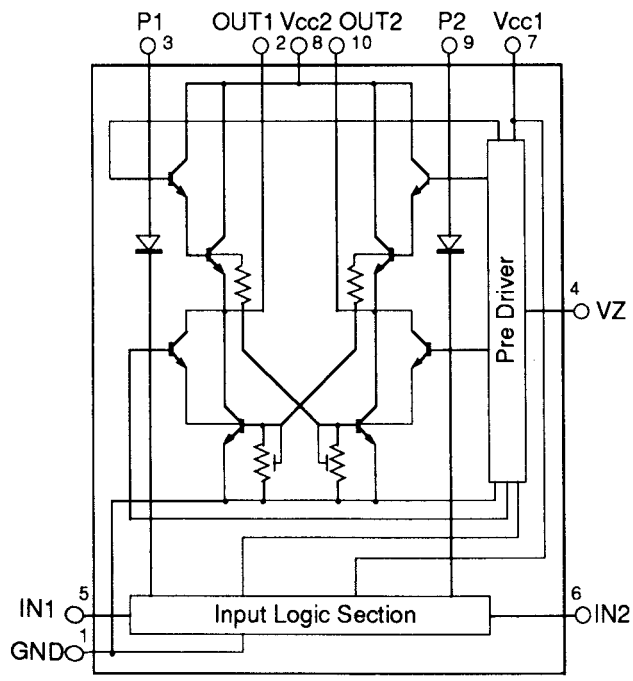
Note: 1.Master Volume Minimum
2.Room Temperature 18℃～28℃ (65℉～83℉)
3.For this adjustment, run the unit for more than 10 minutes after the power is switched ON.

STEP	SUBJECT	MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
1	Bias Current Adj. <L-CH>	Test terminal(TP,L-CH) DC Volt Meter	kVR1<L-CH> F-5717	DC 6.6mV	*This bias value is converted from current value to voltage by ohms law.
2	Bias Current Adj. <R-CH>	Test terminal(TP,R-CH) DC Volt Meter	kVR1<R-CH> F-5717	DC 6.6mV	

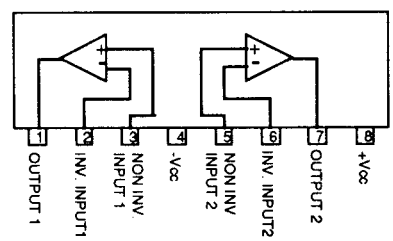


3. INTERIOR BLOCK DIAGRAM & TERMINAL FUNCTION OF IC

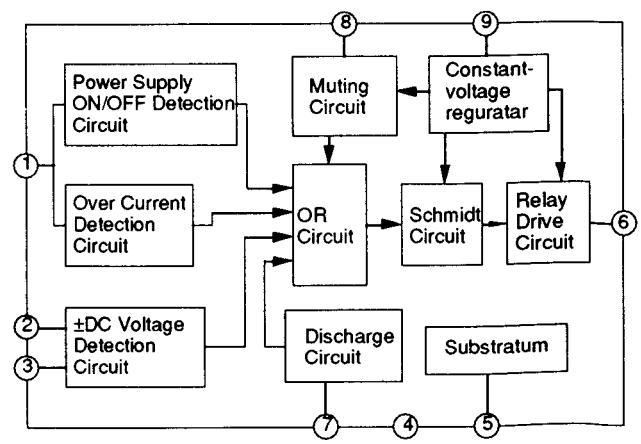
•LB1641(Driving Motor)



•M5219L(OP. Amp.)



•TA7317P(Protector)

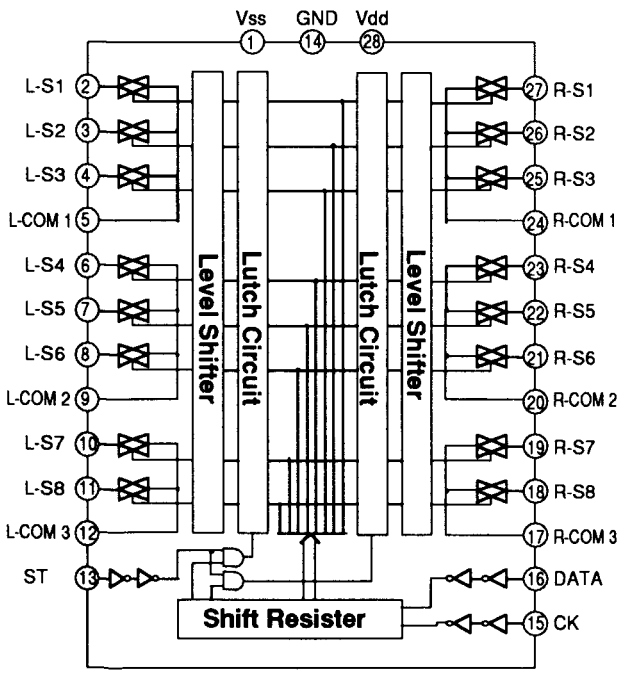


•TMP47C440-754Z(System Control)

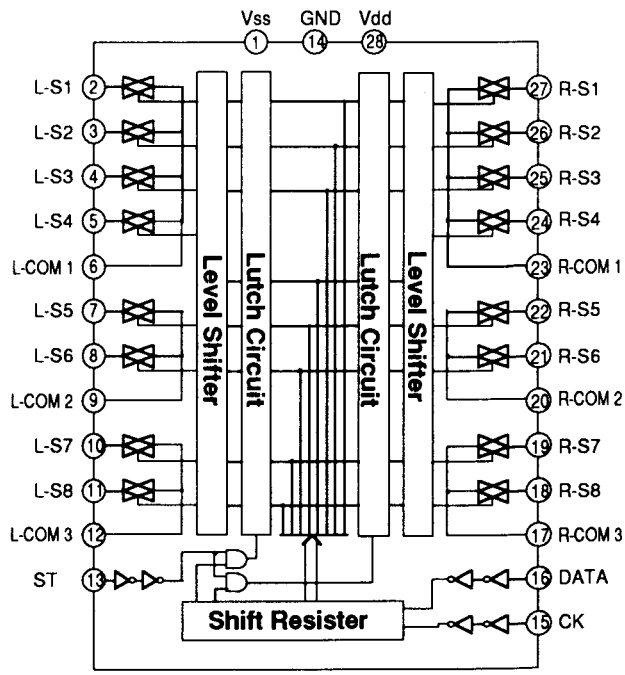
Pin No.	I/O	Function	Active
1	I	+5V	
2	I	GND	
5	A/D I	KEY IN	
6	A/D I	REC SELECTOR	
7	O	REC PAUSE	
8	O	SSB OUT	H
9	O	TUNER DATA	
10	O	TU. REQ	
11	O	MO.VOL+	H
12	O	MO. VOL-	H
15	O	POWER OUT	H
16	O	MUTE	H
17	O	STAND BY LED	L
18	O	MUTE LED	L
19	O	PHONO LED	L
20	O	TUNER LED	L

Pin No.	I/O	Function	Active
21	I	GND	
22	O	CD LED	L
23	O	LINE LED	L
24	O	TAPE1 LED	L
25	O	TAPE2 LED	L
26	O	PROTECT	H
29	I	POWER SW	L
31	I	XIN	
32	O	XOUT	
33	I	RESET	L
34	I	HOLD	
38	I	REMOTE IN	
39	O	STB	H
40	O	DATA	
41	O	CLK	L
42	I	+5V	

•TC-9163N(Analog SW.)



•TC-9164N(Analog SW.)



4. PARTS LIST OF BOARD

1. Some printed circuit board are not supplied assembled.
   To separate these in this Service Manual, the stock numbers are not indicated for these boards. However, stock numbers for individual parts are indicated.
2. Since some capacitors and resistors are omitted from parts lists in service manual, refer to the Common Parts List for capacitors and resistors, which was issued on June 1987.
3. Abbreviations in this Parts List are as follows.

Abbreviations List

C.R.	:Carbon Resistor	E.B.L.	:Low Leak Bi-Polar Electrolytic Capacitor
S.R.	:Solid Resistor	Ta.C.	:Tantalum Capacitor
Ce.R.	:Cement Resistor	F.C.	:Film Capacitor
M.R.	:Metal Film Resistor	M.P.	:Metalized Paper Capacitor
F.R.	:Fusing Resistor	P.C.	:Polystyrene Capacitor
N.I.R.	:Non-Inflammable Resistor	M.M.C.	:Metalized Mylar Capacitor
A.R.	:Array Resistor	A.C.	:Array Capacitor
C.C.	:Ceramic Capacitor	V.R.	:Variable Resistor
C.T.	:Ceramic Capacitor, Temperature Compensation	S.V.R.	:Semi Variable Resistor
		SW.	:Switch
E.C.	:Electrolytic Capacitor	Chip.R.	:Chip Resistor
E.L.	:Low Leak Electrolytic Capacitor	Chip.C.	:Chip Capacitor
E.B.	:Bi-Polar Electrolytic Capacitor		

4-1. AU-X417R

F-5717C. Power Amp. Board

<Stock No.01342101>

Parts No.	Stock No.	Description
•TRANSISTOR		
kQ1	46581601	2SA 992
kQ2	48577701	2SA1349
kQ3	46728301	2SC2705
or	48113001	2SC2229
kQ4	46728301	2SC2705
or	48113001	2SC2229
kQ5	03064001	2SC1904
or	46128101	2SC2911
kQ6	03007901	2SA 899
or	46128001	2SA1209
kQ7	03067401	2SC1845
kQ8	48061801	2SC3244
kQ9	48064001	2SA1284
kQ10	46728901	2SC3298
or	48158701	2SC2591
kQ11	46728801	2SA1306
or	48158601	2SA1111
• DIODE		
kD1	83000100	1N4148
⚠ kR13	83079000	N.I. R. 1/2W 1 KΩ
⚠ kR14	83077900	N.I. R. 1/2W 120 Ω
⚠ kR15	83079000	N.I. R. 1/2W 1 KΩ
⚠ kR16	83079000	N.I. R. 1/2W 1 KΩ
⚠ kR17	83079000	N.I. R. 1/2W 1 KΩ
⚠ kR18	83077900	N.I. R. 1/2W 120 Ω
⚠ kR22	83077200	N.I. R. 1/2W 33 Ω
⚠ kR23	83077200	N.I. R. 1/2W 33 Ω
⚠ kR28	83079000	N.I. R. 1/2W 1 KΩ
⚠ kR29	83077900	N.I. R. 1/2W 120 Ω

Parts No.	Stock No.	Description
⚠ kR30	83076200	N.I. R. 1/2W 4.7 Ω
⚠ kR31	83076200	N.I. R. 1/2W 4.7 Ω
⚠ kR32	83061100	Ce R. 5W 0.22Ω
⚠ kR33	46623100	N.I. R. 2W 10 Ω
or	83099400	N.I. R. 2W 10 Ω
⚠ kR34	83087200	N.I. R. 1W 2.2 Ω
⚠ kR35	46624700	N.I. R. 2W 220 Ω.
or	83101000	N.I. R. 2W 220 Ω
⚠ kR38	83061100	Ce R. 5W 0.22Ω
⚠ kR41	46623100	N.I. R. 2W 10 Ω`
or	83099400	N.I. R. 2W 10 Ω
kL1	83020100	INDUCTOR 0.82μH
kVR1	83006900	1KΩ S.V.R.
• TRANSISTOR		
IQ1	46581701	2SC1845
IQ2	46581601	2SA 992
• IC		
IIC1	46207600	TA7317P
• DIODE		
ID1	83000100	1N4148
ID2	83000100	1N4148
ID3	83005000	1N4002
ID4	83005000	1N4002
ID5	83005000	1N4002
IR18	83090100	N.I. R. 1W 560 Ω

•AU-X417R<F-5717C>

Parts No.	Stock No.	Description
IC5	49580600	E.B. 6.3V 220 µF
IRL2	46948200	RELAY DC24V
or	49358900	RELAY

F-5719C. Headphons Jack Board

Parts No.	Stock No.	Description
oJ1	49495100	JACK,HEAD PHONES

F-5720C. Speaker SW. Board

Parts No.	Stock No.	Description
oS7	83331500	PUSH SW.,SPEAKER SW.

F-5721C. Speaker Terminal Board

Parts No.	Stock No.	Description
kR100	83088000	N.I. R. 1W 10 Ω
kR101	83088000	N.I. R. 1W 10 Ω
oZ4	48569100	SPEAKER TERMINAL 8P

F-6879A. EQ Amp. Board

<Stock No.01340901>

Parts No.	Stock No.	Description
• IC		
iIC1	46579100	M5219L RIAA OPAMP
• ZENER DIODE		
iDZ1	48636700	RD22B1
or	48636800	RD22B2
iDZ2	48636700	RD22B1
or	48636800	RD22B2
• IC		
oIC1	49475700	TC9164N
oIC2	49312200	TC9163N
oS1	49824300	PUSH SW. ,MM/MC
oZ1	48528400	TERMINAL BOARD 2P
oZ3	48528300	TERMINAL BOARD 6P

F-6880A. Tape Rec/Play Terminal Board

<Stock No.01341001>

Parts No.	Stock No.	Description
• ZENER DIODE		
oDZ1	48635100	RD15B1
or	48635200	RD15B2
oDZ2	48635100	RD15B1
or	48635200	RD15B2
oC12	49579000	C.C. 50V 47 PF
oC13	49579000	C.C. 50V 47 PF
oZ2	48528500	TERMINAL BOARD 4P

F-6881A. Power Supply Board

<Stock No.01341101>

Parts No.	Stock No.	Description
• TRANSISTOR		
⚠ mQ11	48150101	2SD1406
• IC		
mIC1	49440800	NJM78M12FA
• DIODE		
mD31	83020200	DF04M
mD32	46464100	1SS133
mD33	46464100	1SS133
⚠ mD34	83020200	DF04M
mD35	46464100	1SS133
• ZENER DIODE		
mDZ11	49678900	MTZJ12A
or	49679000	MTZJ12B
mPT11	15038511	POWER TRANSFORMER

•AU-X417R

F-6882A. Remote Control Jack Board

Parts No.	Stock No.	Description
wZ6	49436400	JACK,BLUE
wZ7,8	48985400	MINI JACK,BLACK.WHITE

F-6883A. Rec Selector Board

Parts No.	Stock No.	Description
oS4	49825800	ROTARY SW.,REC SELECTER

F-6884A. Control Board

<Stock No.01341401>

Parts No.	Stock No.	Description
• TRANSISTOR		
jQ1	48387701	2SC3327
jQ2	46834200	DTA144ES
or	49390500	RN2204
jQ3	46834300	DTC144ES
or	49388800	RN1209
jQ4	46834300	DTC144ES
or	49388800	RN1209
jQ5	48223100	DTC114TS
• IC		
jIC1	48982600	LB1641
• DIODE		
jD1	03117600	1S2473
or	46464100	1SS133
• ZENER DIODE		
jDZ1	48629900	RD4.3B1
or	48630000	RD4.3B2
jC3	48103000	E.B. 50V 0.22 μF
jVR1	83003200	250KΩ(MN) V.R.
• IC		
mIC2	49772500	NJM78M56FA
nLD1 to D6	49823700	L.E.D. SEL2910A
oS2	83331600	PUSH SW., SUBSONIC/LOUDNESS
oS5	49326300	PUSH SW., TAPE-2
oS6	49326300	PUSH SW., TAPE-1
oS8	49326300	PUSH SW.,LINE
oS9	49326300	PUSH SW.,CD
oS10	49326300	PUSH SW.,TUNER
oS11	49326300	PUSH SW., PHONO
• TRANSISTOR		
wQ1	46834300	DTC144ES
or	49388800	RN1209
wQ2	46834300	DTC144ES
or	49388800	RN1209
wQ3	46834300	DTC144ES
or	49388800	RN1209
wQ4	48223100	DTC114TS
• IC		
wIC1	49824100	TMP47C440AN-G754Z
wXO1	49488500	QUARTZ ELEMENT CSA4.19MG
• DIODE		
wD1 to D5	03117600	1S2473
or	46464100	1SS133
wC5	48785900	E.C. 5.5V 3.3 μF
wC11	49579000	C.C. 50V 47 PF
wC12	49579000	C.C. 50V 47 PF
wC13	49579000	C.C. 50V 47 PF

F-6885A. Indicator Board

Parts No.	Stock No.	Description
wZ1	49356200	REMOTE RECEIVE UNIT GP1U521X
nLD7	49823700	L.E.D. SEL2910A
nLD8	49544500	L.E.D. SEL2210S

F-6886A. M.V.R. Board

Parts No.	Stock No.	Description
jVR2	49824400	150KΩ(B) V.R.,MVR
or	83334700	150KΩ(B) V.R.,MVR

•AU-X417R

F-6888A . Power SW. Board

Parts No.	Stock No.	Description
pS1	49344100	PUSH SW., POWER
or	83002800	PUSH SW. ,POWER

F-6889A/ M.V.R. Indicator Board

Parts No.	Stock No.	Description
nLD9	49544500	L.E.D. SEL2210S

F-6890A. Tone Control Board

Parts No.	Stock No.	Description
jC14	48103000	E.B. 50V 0.22 µF
jVR3	83003100	50KΩ(C) V.R. ,TREBLE
jVR4	83003100	50KΩ(C) V.R. ,BASS
oS3	49481400	PUSH SW. ,TONE ON/OFF

F-6902A. Power Supply Board

<Stock No.01342501>

Parts No.	Stock No.	Description
• TRANSISTOR		
⚠ mQ1	48150101	2SD1406
or	48508801	2SC3851
or	49349400	2SD2012
⚠ mQ2	48150801	2SB1015
or	48509101	2SA1488
or	49349500	2SB1375
• DIODE		
⚠ mD1	49634100	DBF60E
⚠ mD2	83020200	DF04M
⚠ mD21	83005000	1N4002
• ZENER DIODE		
mDZ1	46830500	RD30E-B1
or	46830600	RD30E-B2
mDZ2	46830500	RD30E-B1
or	46830600	RD30E-B2
⚠ mR1	83052600	NI. R. 1/2W 15 KΩ
⚠ mR2	83052600	NI. R. 1/2W 15 KΩ
⚠ mR4	83076600	N.I. R. 1/2W 10 Ω
⚠ mR11	83076600	N.I. R. 1/2W 10 Ω
⚠ mR12	46623100	N.I. R. 2W 10 Ω
or	83099400	N.I. R. 2W 10 Ω
mC1	49623400	E.C. 63V 8200 µF
mC2	49623400	E.C. 63V 8200 µF
mC11	08680400	0.01 µF 500V C.C.
mC12	08680400	0.01 µF 500V C.C.
• DIODE		
⚠ pD1	49555400	1S1555
or	83000100	1N4148
⚠ pC1	46425800	0.01 µF 400V C.C.
⚠ pF1	83021900	FUSE 3A
⚠ pF2	83021900	FUSE 3A
⚠ pRL1	49730400	RELAY

4-2. AU-X317

F-5717D. Power Amp. Board

<Stock No.01343701>

	Parts No.		Stock No.	Description
•TRANSISTOR				
	kQ1		46581601	2SA 992
	kQ2		48577701	2SA1349
	kQ3		46728301	2SC2705
		or	48113001	2SC2229
	kQ4		46728301	2SC2705
		or	48113001	2SC2229
	kQ5		03064001	2SC1904
		or	46128101	2SC2911
	kQ6		03007901	2SA 899
		or	46128001	2SA1209
	kQ7		03067401	2SC1845
	kQ8		48061801	2SC3244
	kQ9		48064001	2SA1284
	kQ10		46728901	2SC3298
		or	48158701	2SC2591
	kQ11		46728801	2SA1306
		or	48158601	2SA1111
•DIODE				
	kD1		83000100	1N4148
⚠	kR13		83079000	N.I. R. 1/2W 1 KΩ
⚠	kR14		83077900	N.I. R. 1/2W 120 Ω
⚠	kR15		83079000	N.I. R. 1/2W 1 KΩ
⚠	kR16		83079000	N.I. R. 1/2W 1 KΩ
⚠	kR17		83079000	N.I. R. 1/2W 1 KΩ
⚠	kR18		83077900	N.I. R. 1/2W 120 Ω
⚠	kR22		83077200	N.I. R. 1/2W 33 Ω
⚠	kR23		83077200	N.I. R. 1/2W 33 Ω
⚠	kR28		83079000	N.I. R. 1/2W 1 KΩ
⚠	kR29		83077900	N.I. R. 1/2W 120 Ω
⚠	kR30		83076200	N.I. R. 1/2W 4.7 Ω
⚠	kR31		83076200	N.I. R. 1/2W 4.7 Ω
⚠	kR32		83061100	Ce R. 5W 0.22Ω
⚠	kR33		46623100	N.I. R. 2W 10 Ω
		or	83099400	N.I. R. 2W 10 Ω
⚠	kR34		83087200	N.I. R. 1W 2.2 Ω
⚠	kR35		46624700	N.I. R. 2W 220 Ω
		or	83101000	N.I. R. 2W 220 Ω
⚠	kR38		83061100	Ce R. 5W 0.22Ω
⚠	kR41		46623100	N.I. R. 2W 10 Ω
		or	83099400	N.I. R. 2W 10 Ω
	kL1		83020100	INDUCTOR 0.82μH
	kVR1		83006900	1KΩ S.V.R.

Parts No.	Stock No.	Description
•TRANSISTOR		
IQ1	46581701	2SC1845
IQ2	46581601	2SA 992
•IC		
IIC1	46207600	TA7317P
•DIODE		
ID1	83000100	1N4148
ID2	83000100	1N4148
ID3	83005000	1N4002
ID4	83005000	1N4002
ID5	83005000	1N4002
IR18	83090100	N.I. R. 1W 560 Ω
IC5	49580600	E.B. 6.3V 220 μF
IRL2	46948200	RELAY DC24V
or	49358900	RELAY

F-5719D. Headphones Jack Board

Parts No.	Stock No.	Description
oJ1	49495100	JACK,HEAD PHONES

F-5720D. Speaker SW. Board

Parts No.	Stock No.	Description
oS7	83331500	PUSH SW. SPEAKER SW.

F-5721D. Speaker Terminal Board

Parts No.	Stock No.	Description
kR100	83088000	N.I. R. 1W 10 Ω
kR101	83088000	N.I. R. 1W 10 Ω
oZ4	48569100	SPEAKER TERMINAL 8P

•AU-X317

F-6879B. EQ Amp. Board

<Stock No.01342801>

Parts No.	Stock No.	Description
• IC		
iIC1	46579100	M5219L RIAA OPAMP
•ZENER DIODE		
iDZ1	48636700	RD22B1
iDZ2	48636700	RD22B1
or	48636800	RD22B2
•IC		
oiC1	49475700	TC9164N
oiC2	49312200	TC9163N
oS1	49824300	PUSH SW.
oZ1	48528400	TERMINAL BOARD 2P
oZ3	48528300	TERMINAL BOARD 6P

F-6880B. Tape Rec/Play Terminal Board

<Stock No.01342901>

Parts No.	Stock No.	Description
•ZENER DIODE		
oDZ1	48635100	RD15B1
or	48635200	RD15B2
oDZ2	48635100	RD15B1
or	48635200	RD15B2
oC12	49579000	C.C. 50V 47 PF
oC13	49579000	C.C. 50V 47 PF
oZ2	48528500	TERMINAL BOARD 4P

F-6881B. Power Supply Board

<Stock No.01346801>

Parts No.	Stock No.	Description
• IC		
mIC1	49440800	NJM78M12FA
• DIODE		
mD31	83020200	DF04M
mD32	46464100	1SS133
mD35	46464100	1SS133

F-6883B. Rec Selector Board

Parts No.	Stock No.	Description
oS4	49825800	ROTARY SW. ,REC SELECTER

F-6884B. Control Board

<Stock No.01343101>

Parts No.	Stock No.	Description
•TRANSISTOR		
jQ1	48387701	2SC3327
jQ2	46834200	DTA144ES
or	49390500	RN2204
jQ3	46834300	DTC144ES
or	49388800	RN1209
•DIODE		
jD1	03117600	1S2473T77
or	46464100	1SS133
jC3	48103000	E.B. 50V 0.22 µF
jVR1	83003200	250KΩ(MN) V.R.
• IC		
mIC2	49772500	NJM78M56FA
nLD1 to D6	49823700	L.E.D. SEL2910A
oS2	83331600	PUSH SW., SUBSONIC/LOUDNESS
oS5	49326300	PUSH SW., TAPE-2
oS6	49326300	PUSH SW., TAPE-1
oS8	49326300	PUSH SW.,LINE
oS9	49326300	PUSH SW.,CD
oS10	49326300	PUSH SW.,TUNER
oS11	49326300	PUSH SW., PHONO
•TRANSISTOR		
wQ2	46834300	DTC144ES
or	49388800	RN1209
wQ3	46834300	DTC144ES
or	49388800	RN1209

•AU-X317<F-6884B>

Parts No.	Stock No.	Description
• IC		
wIC1	49824100	TMP47C440AN-G754Z
wXO1	49488500	QUARTZ ELEMENT CSA4.19MG
•DIODE		
wD1to D5	03117600	1S2473
or	46464100	1SS133
wC5	48785900	E.C. 5.5V 3.3 µF

F-6886B. M.V.R. Board

Parts No.	Stock No.	Description
jVR2	83334400	150KΩ(B) V.R.,MVR

F-6890B. Tone Control Board

Parts No.	Stock No.	Description
jC14	48103000	E.B. 50V 0.22 µF
jVR3	83003100	50KΩ(C)V.R. ,TREBLE
jVR4	83003100	50KΩ(C)V.R. ,BASS
oS3	49481400	PUSH SW. ,TONE ON/OFF

F-6902B. Power Supply Board

<Stock No.01344101>

Parts No.	Stock No.	Description
•TRANSISTOR		
⚠ mQ1	48150101	2SD1406
or	48508801	2SC3851
or	49349400	2SD2012
⚠ mQ2	48150801	2SB1015
or	48509101	2SA1488
or	49349500	2SB1375
•DIODE		
⚠ mD1	49634100	DBF60E
⚠ mD2	83020200	DF04M
⚠ mD21	83005000	1N4002
•ZENER DIODE		
mDZ1	46830500	RD30E-B1
or	46830600	RD30E-B2
mDZ2	46830500	RD30E-B1
or	46830600	RD30E-B2
⚠ mR1	83052600	NI. R. 1/2W 15 KΩ
⚠ mR2	83052600	NI. R. 1/2W 15 KΩ
⚠ mR4	83076600	N.I. R. 1/2W 10 Ω
⚠ mR11	83076600	N.I. R. 1/2W 10 Ω
⚠ mR12	46623100	N.I. R. 2W 10 Ω
or	83099400	N.I. R. 2W 10 Ω
mC1	49623400	E.C. 63V 8200 µF
mC2	49623400	E.C. 63V 8200 µF
mC11	08680400	0.01 µF 500V C.C.
mC12	08680400	0.01 µF 500V C.C.
pC1	46425800	0.01 µF 400V C.C.
⚠ pF1	83021900	FUSE 3A
⚠ pRL1	46948200	RELAY DC24V

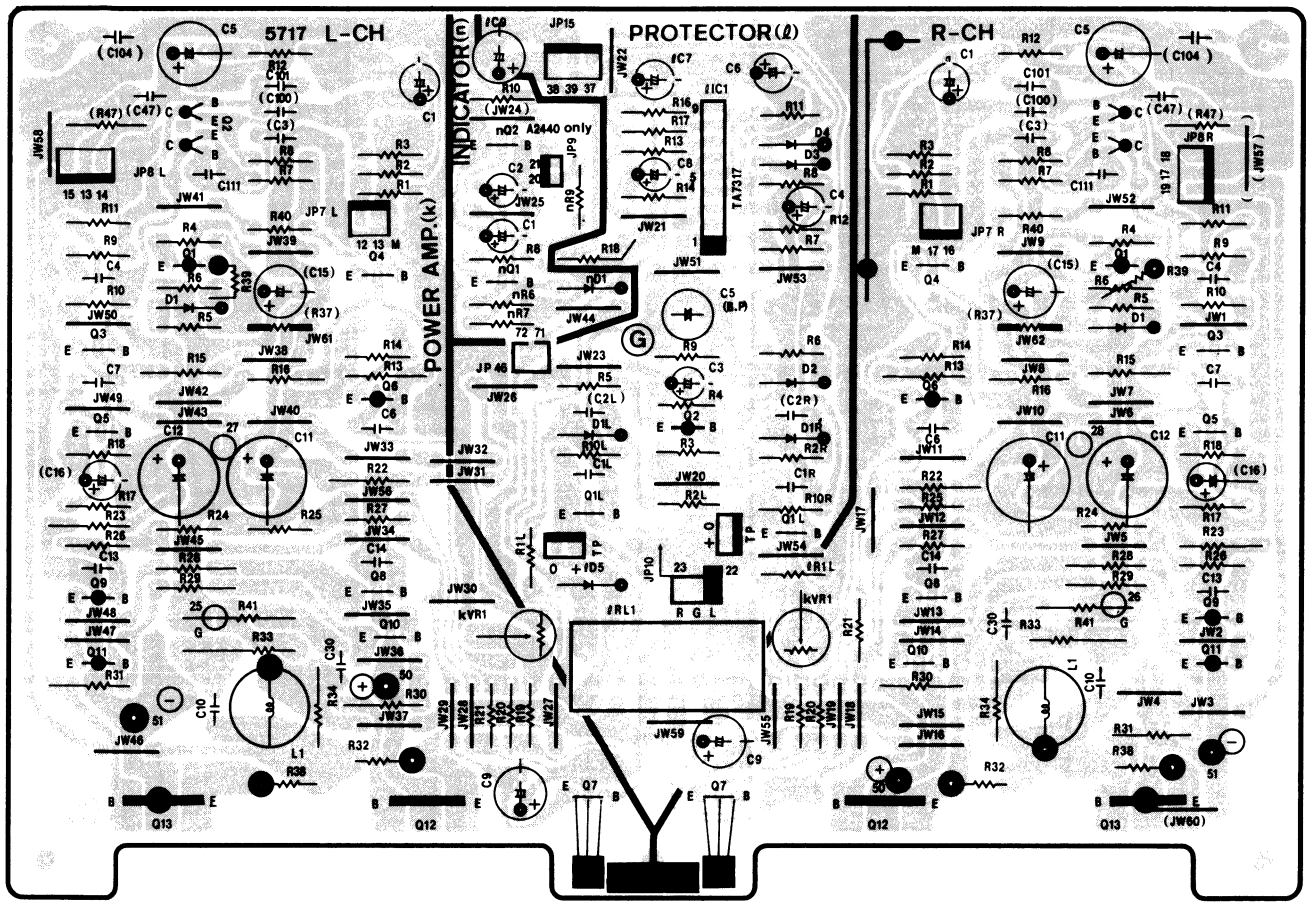
F-6933B. Power Indicator Board

Parts No.	Stock No.	Description
nLD8	49544500	L.E.D. SEL2210S

5. PARTS LOCATION ON BOARD

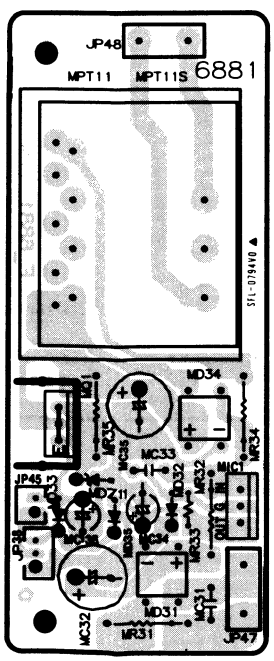
5-1. F-5717 POWER AMP. BOARD

COMPONENT SIDE



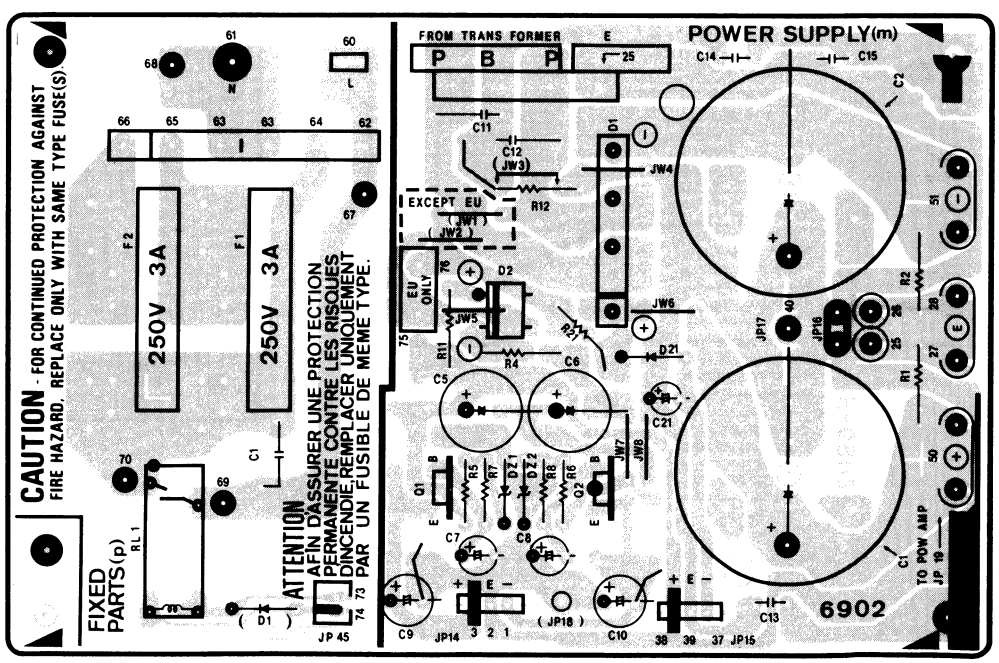
5-2. F-6881 POWER SUPPLY BOARD

COMPONENT SIDE



5-3. F-6902 POWER SUPPLY BOARD

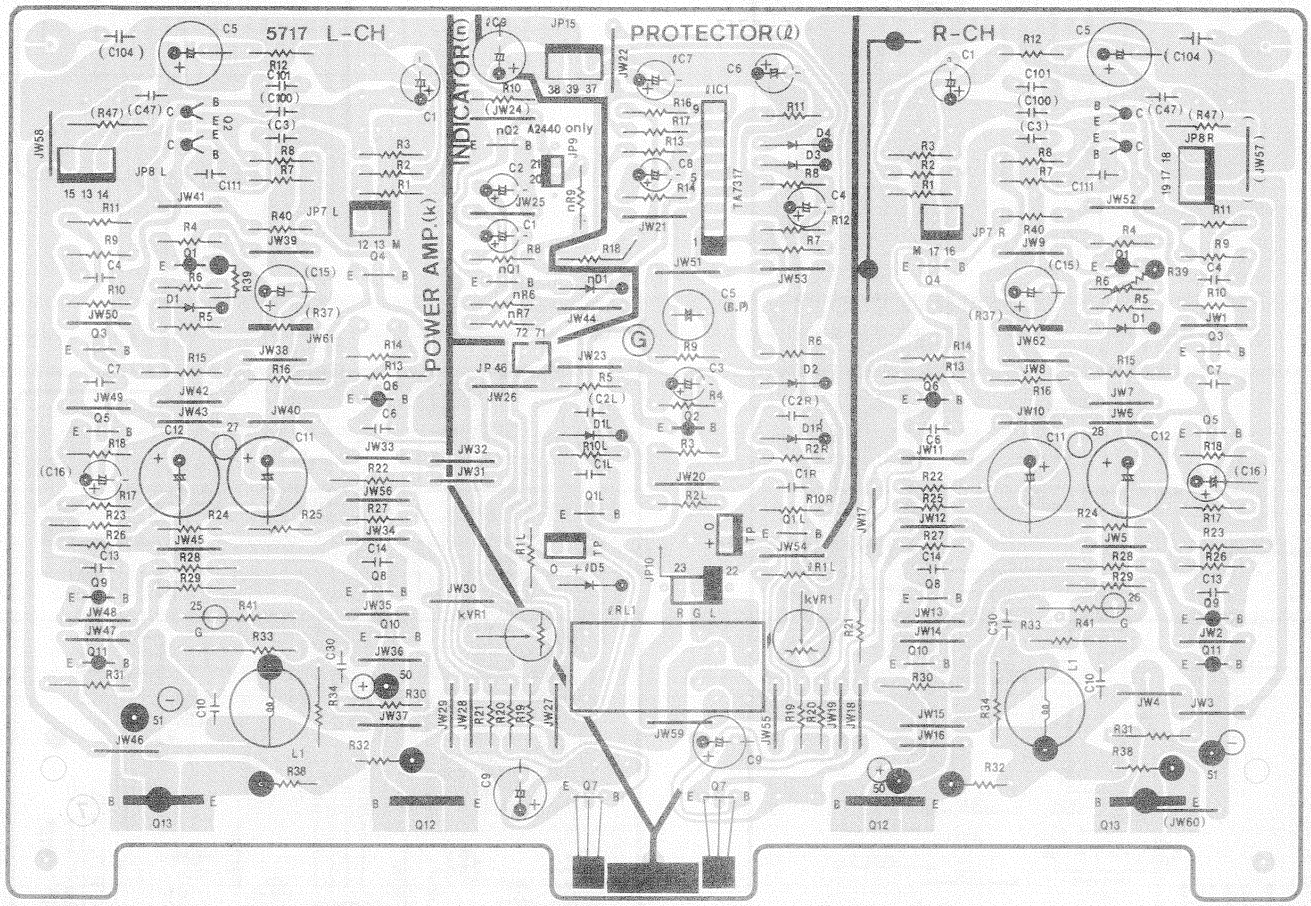
COMPONENT SIDE


POWER SUPPLY(m)
FROM TRANS FORMER
CAUTION - FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE FUSE(S).
ATTENTION AFIN D'ASSURER UNE PROTECTION PERMANENTE CONTRE LES RISQUES D'INCENDIE,REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MEME TYPE.
250V 3A
250V 3A
FIXED PARTS(p)
EXCEPT EU
EU ONLY
6902

5. PARTS LOCATION ON BOARD

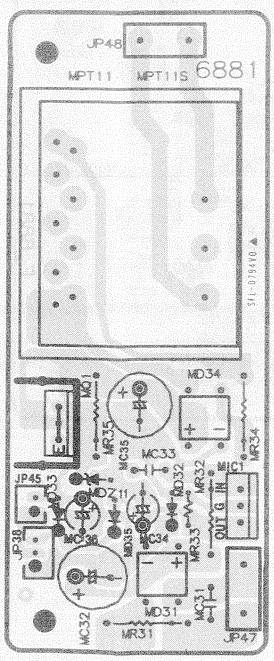
5-1. F-5717 POWER AMP. BOARD

COMPONENT SIDE



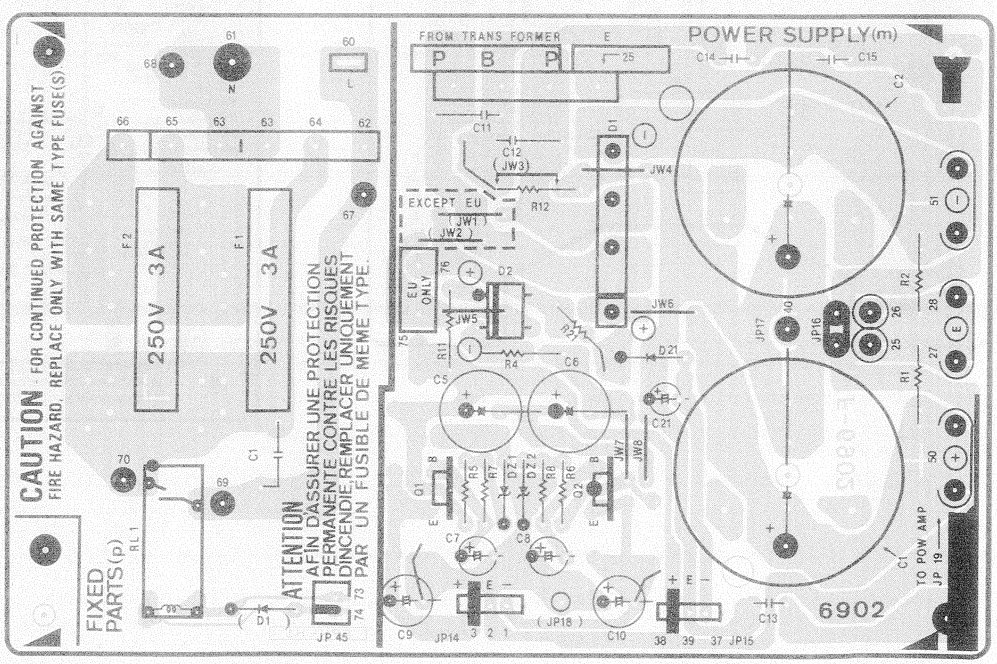
5-2. F-6881 POWER SUPPLY BOARD

COMPONENT SIDE



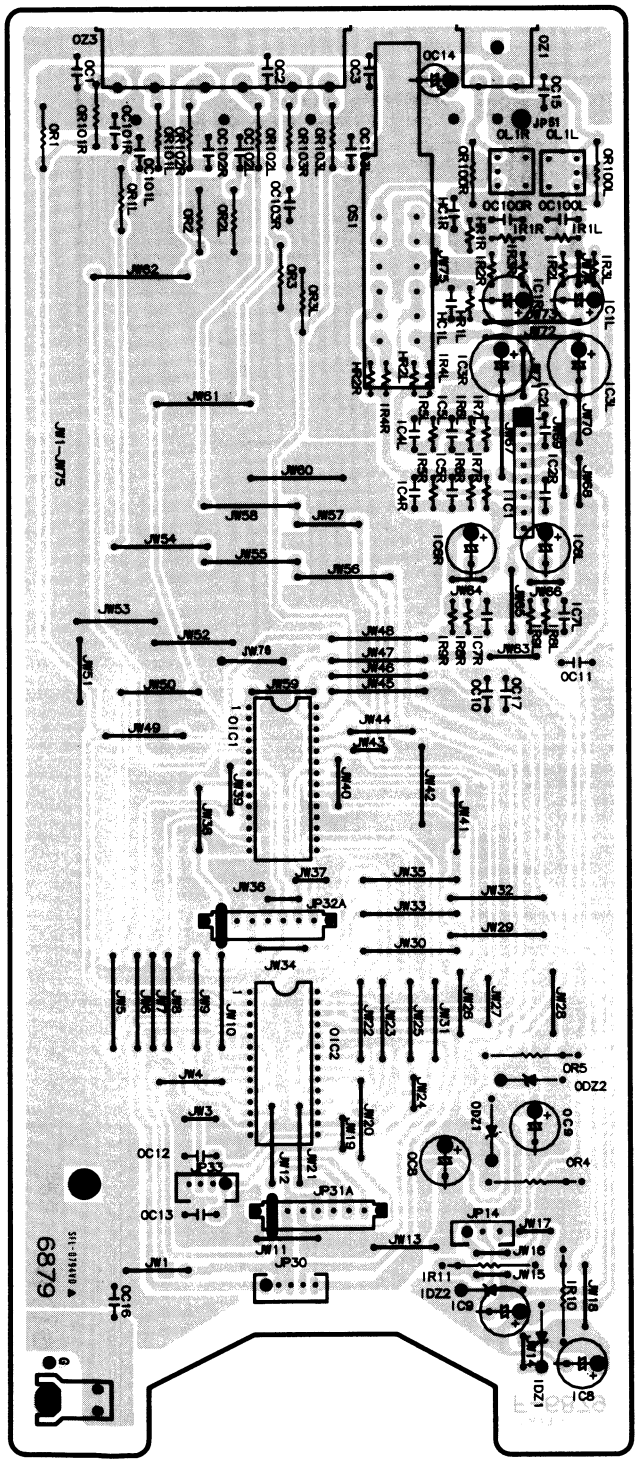
5-3. F-6902 POWER SUPPLY BOARD

COMPONENT SIDE


POWER SUPPLY(m)
FROM TRANS FORMER
CAUTION - FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE FUSE(S)
250V 3A
ATTENTION
AFIN DASSURER UNE PROTECTION PERMANENTE CONTRE LES RISQUES D'INCENDIE REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MEME TYPE.
FIXED PARTS(p)
EXCEPT EU
EU ONLY
6902

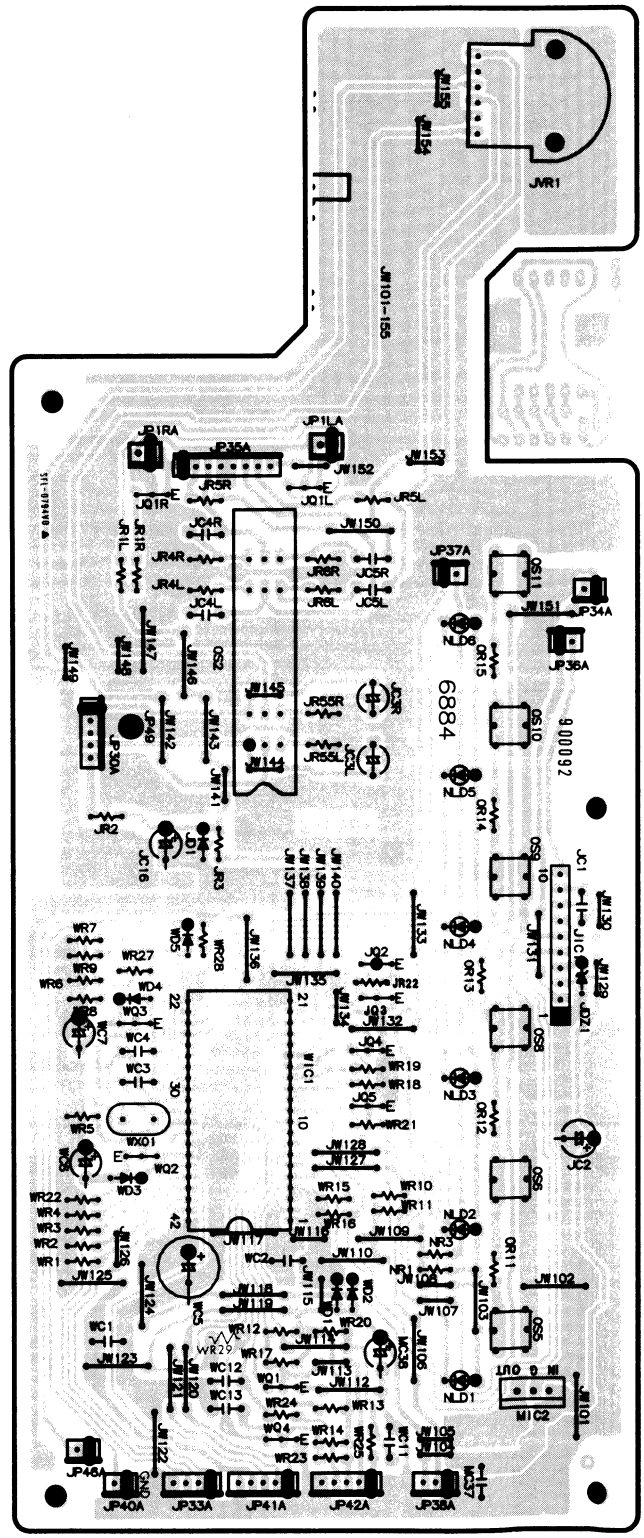
5-4. F-6879 EQ & SELECTOR BOARD

COMPONENT SIDE



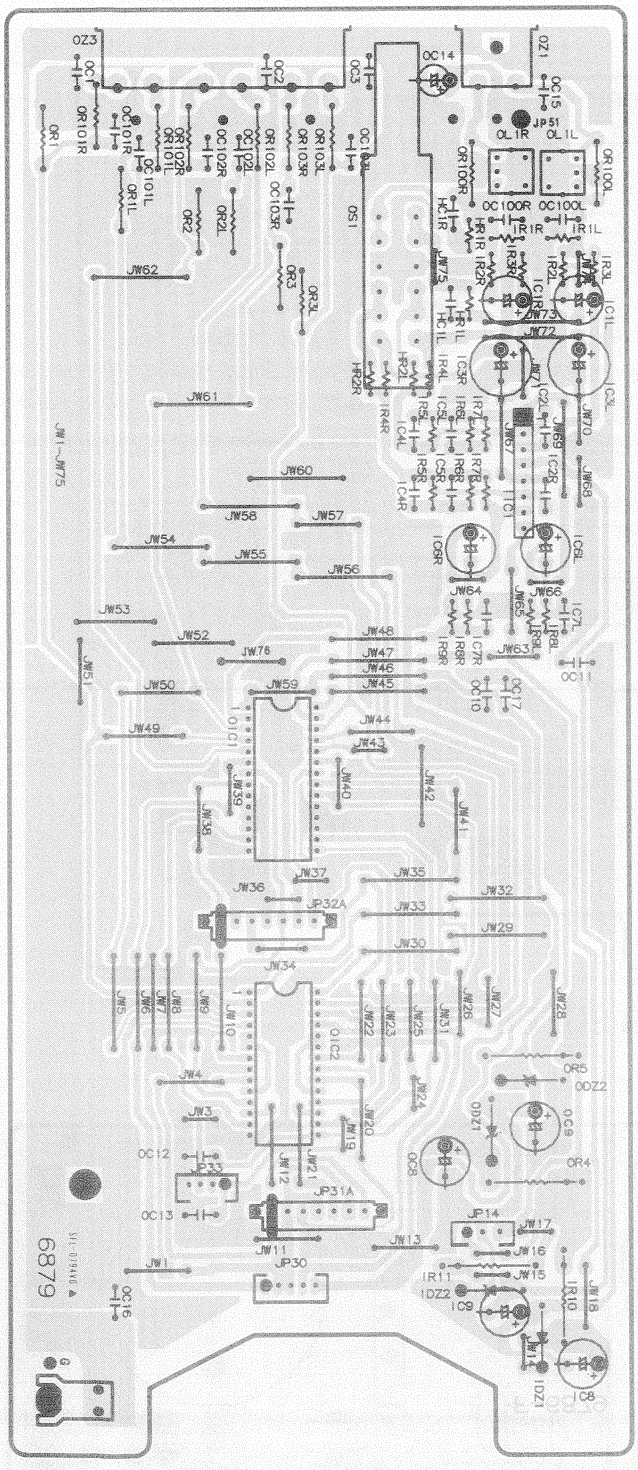
5-5. F-6884 CONTROL BOARD

COMPONENT SIDE



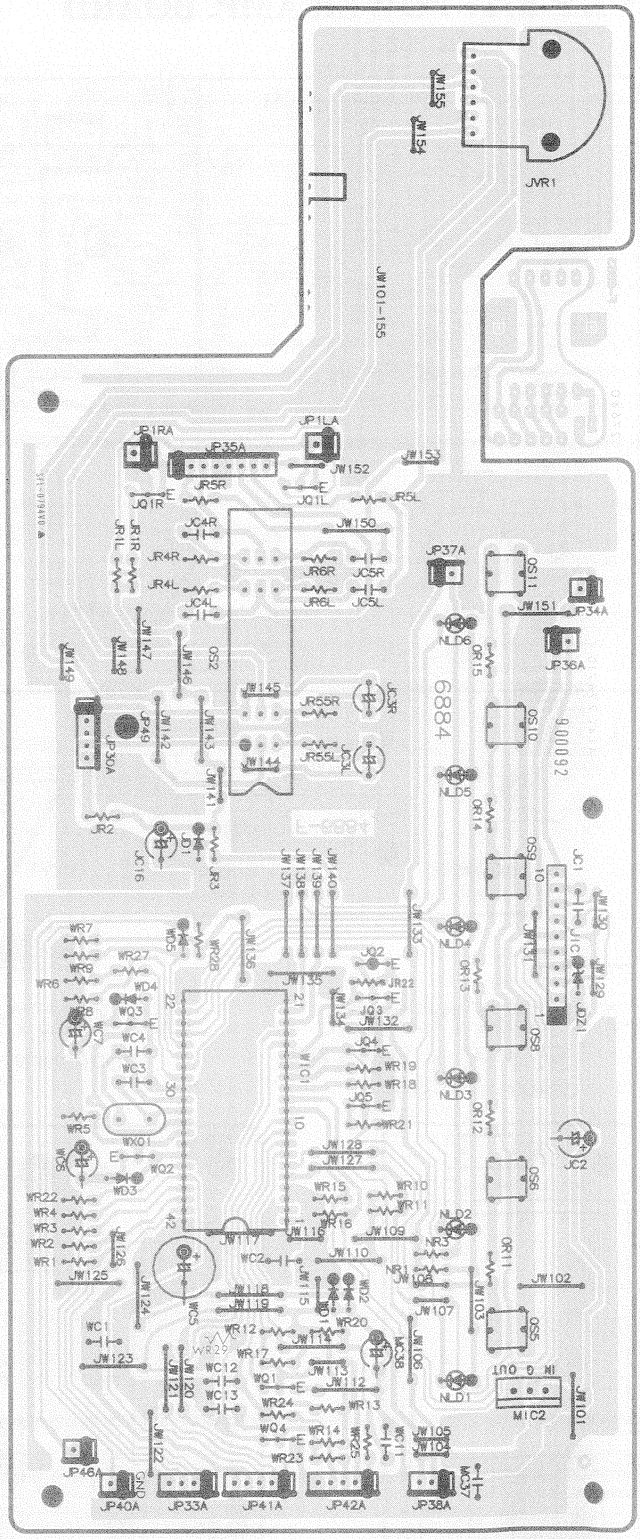
5-4. F-6879 EQ & SELECTOR BOARD

COMPONENT SIDE



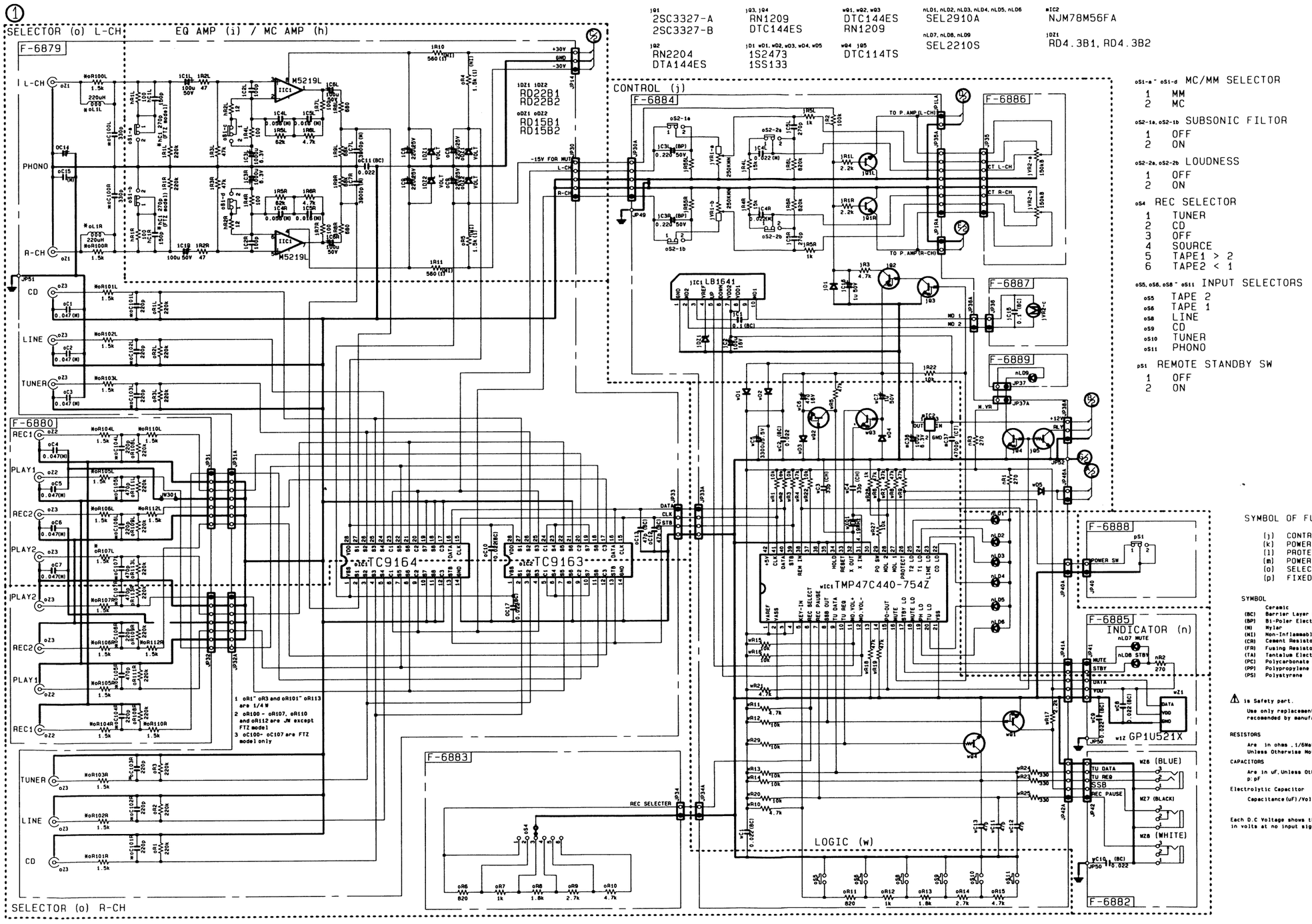
5-5. F-6884 CONTROL BOARD

COMPONENT SIDE



6. SCHEMATIC DIAGRAM

6-1. AU-X417R EQ & CONTROL AM P. SECTION



jQ1 2SC3327-A 2SC3327-B
jQ2 RN2204 DTA144ES
jQ3, jQ4 RN1209 DTC144ES
jD1 wD1, wD2, wD3, wD4, wD5 1S2473 1SS133
wQ1, wQ2, wQ3 DTC144ES RN1209
wQ4 jQ5 DTC114TS
nLD1, nLD2, nLD3, nLD4, nLD5, nLD6 SEL2910A
nLD7, nLD8, nLD9 SEL2210S
*IC2 NJM78M56FA
jDZ1 RD4.3B1, RD4.3B2

oS1-a ~ oS1-d MC/MM SELECTOR
1 MM
2 MC

oS2-1a, oS2-1b SUBSONIC FILTOR
1 OFF
2 ON

oS2-2a, oS2-2b LOUDNESS
1 OFF
2 ON

oS4 REC SELECTOR
1 TUNER
2 CD
3 OFF
4 SOURCE
5 TAPE1 > 2
6 TAPE2 < 1

oS5, oS6, oS8 ~ oS11 INPUT SELECTORS
oS5 TAPE 2
oS6 TAPE 1
oS8 LINE
oS9 CD
oS10 TUNER
oS11 PHONO

pS1 REMOTE STANDBY SW
1 OFF
2 ON

SYMBOL OF FUNCTION
(j) CONTROL
(k) POWER AMP
(l) PROTECTOR
(m) POWER SUPPLY
(o) SELECTOR
(p) FIXED PARTS

SYMBOL
Ceramic
(BC) Barrier Layer Capacitor
(BP) Bi-Polar Electrolytic
(M) Mylar
(NI) Non-Inflammable Resistor
(CR) Cement Resistor
(FR) Fusing Resistor
(TA) Tantalum Electrolytic
(PC) Polycarbonate Film
(PP) Polypropylene Film
(PS) Polystyrene

⚠ is Safety part.
Use only replacement parts recomended by manufacturer.

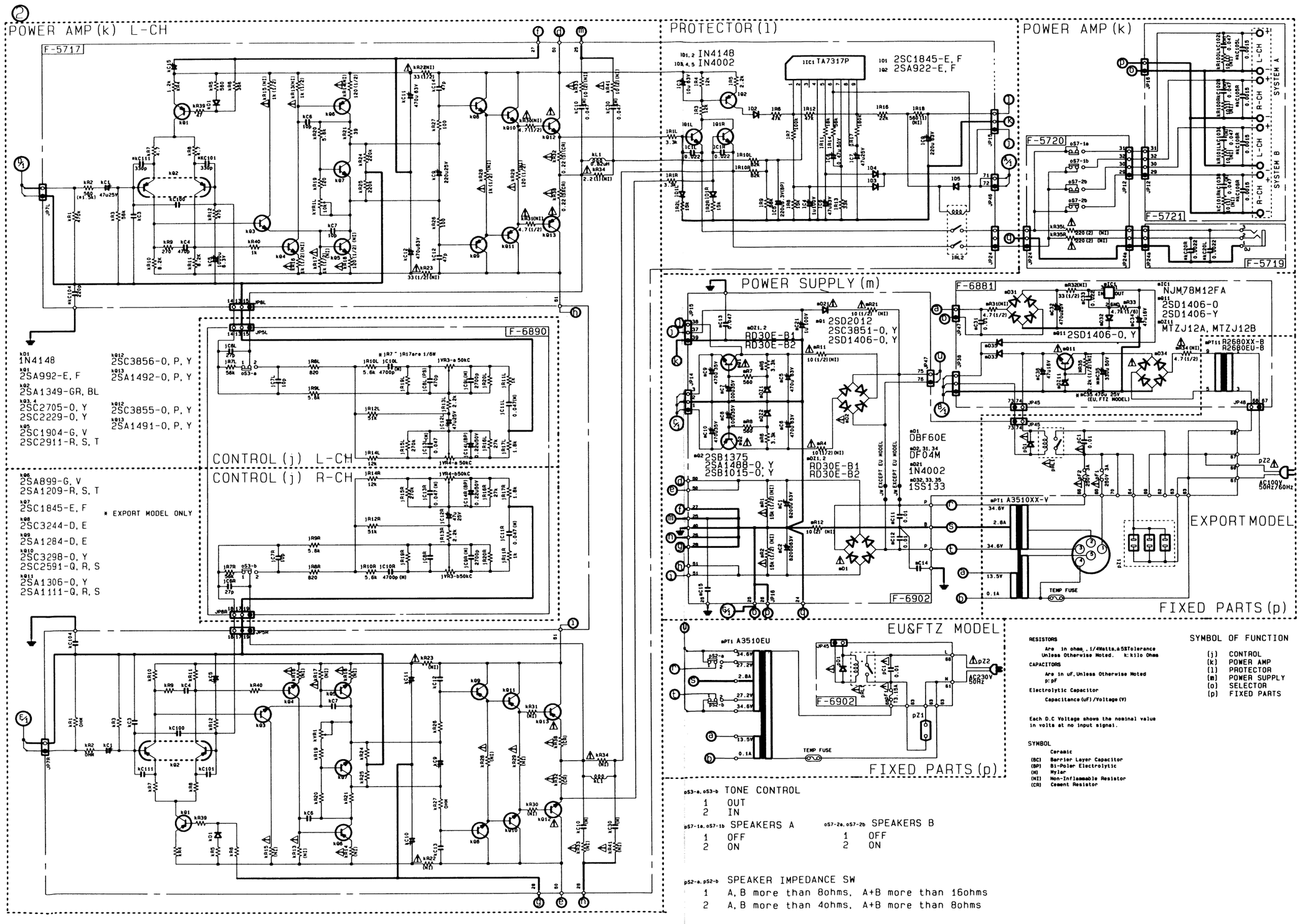
RESISTORS
Are in ohms .1/6Watts,±5%Tolerance
Unless Otherwise Noted k:kilo Ohms

CAPACITORS
Are in uF,Unless Otherwise Noted
p:pF

Electrolytic Capacitor
Capacitance(uF)/Voltage(V)

Each D.C Voltage shows the nominal value in volts at no input signel.

6-2. AU-X417R POWER AM P. & POWER SUPPLY SECTION



kD1 1N4148
kQ1 2SA992-E, F
kQ2 2SA1349-GR, BL
kQ3,4 2SC2705-O, Y
2SC2229-O, Y
kQ5 2SC1904-G, V
2SC2911-R, S, T
kQ6 2SA899-G, V
2SA1209-R, S, T
kQ7 2SC1845-E, F
kQ8 2SC3244-D, E
kQ9 2SA1284-D, E
kQ10 2SC3298-O, Y
2SC2591-Q, R, S
kQ11 2SA1306-O, Y
2SA1111-Q, R, S
kQ12 2SC3856-O, P, Y
kQ13 2SA1492-O, P, Y
kQ12 2SC3855-O, P, Y
kQ13 2SA1491-O, P, Y

* EXPORT MODEL ONLY

RESISTORS
Are in ohms, 1/4Watts, ±5%Tolerance
Unless Otherwise Noted. k:kilo Ohms
CAPACITORS
Are in uF, Unless Otherwise Noted
p:pF
Electrolytic Capacitor
Capacitance(uF)/Voltage(V)

Each D.C Voltage shows the nominal value in volts at no input signal.

SYMBOL
Ceramic
(BC) Barrier Layer Capacitor
(BP) Bi-Poler Electrolytic
(M) Mylar
(NI) Non-Inflammable Resistor
(CR) Cement Resistor

SYMBOL OF FUNCTION
(j) CONTROL
(k) POWER AMP
(l) PROTECTOR
(m) POWER SUPPLY
(o) SELECTOR
(p) FIXED PARTS

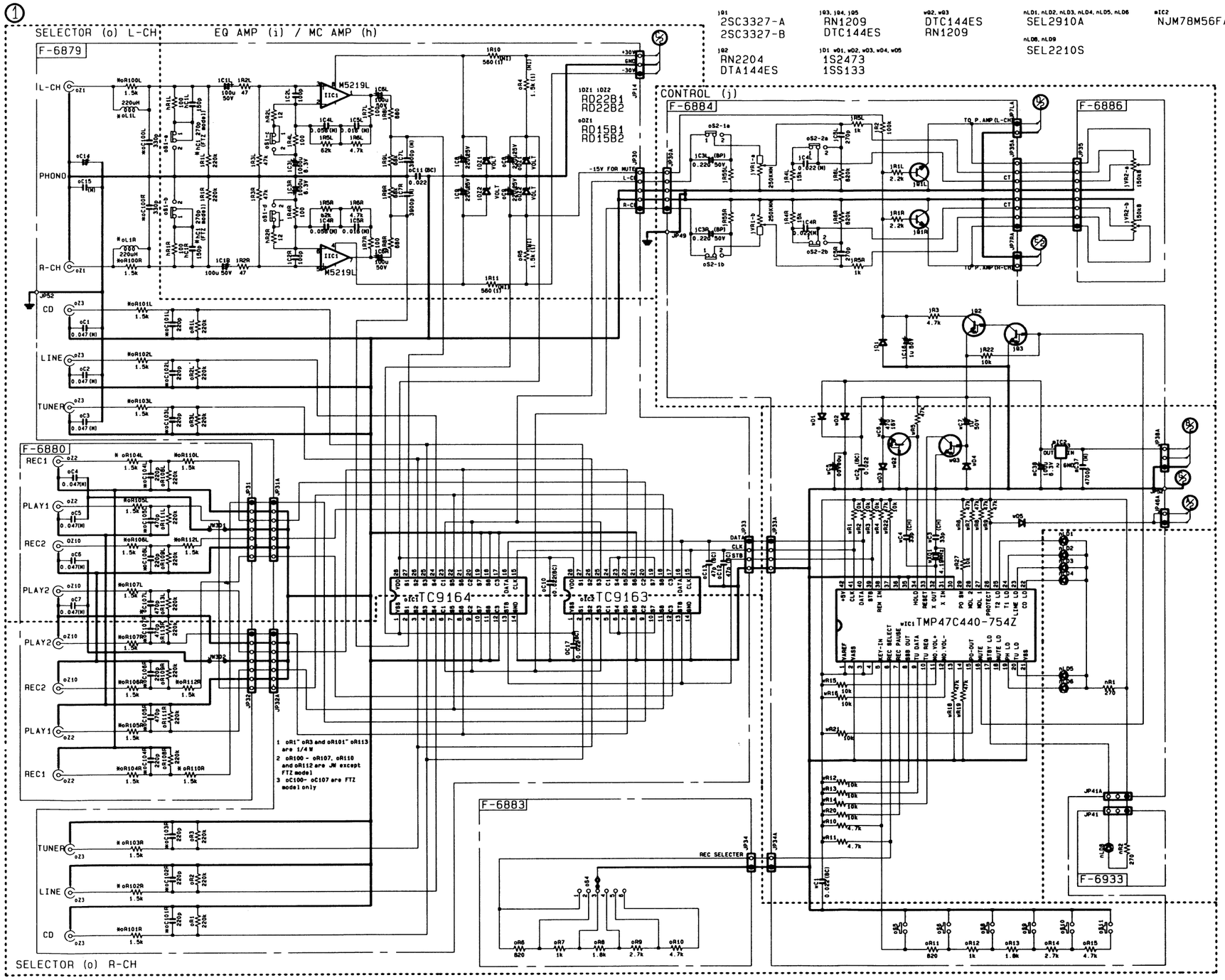
pS3-a, pS3-b TONE CONTROL
1 OUT
2 IN

pS7-1a, pS7-1b SPEAKERS A
1 OFF
2 ON

pS7-2a, pS7-2b SPEAKERS B
1 OFF
2 ON

pS2-a, pS2-b SPEAKER IMPEDANCE SW
1 A, B more than 8ohms, A+B more than 16ohms
2 A, B more than 4ohms, A+B more than 8ohms

6-3. AU-X317 EQ & CONTROL AM P. SECTION



iQ1 2SC3327-A / 2SC3327-B
iQ2 RN2204 / DTA144ES
iQ3, iR4, iQ5 RN1209 / DTC144ES
iQ4, wQ3 DTC144ES / RN1209
iD1 wD1, wD2, wD3, wD4, wD5 1S2473 / 1SS133
nLD1, nLD2, nLD3, nLD4, nLD5, nLD6 SEL2910A
nLD8, nLD9 SEL2210S
iIC2 NJM78M56FA

oS1-a ~ oS1-d MC/MM SELECTOR
1 MM
2 MC

oS2-1a, oS2-1b SUBSONIC FILTOR
1 OFF
2 ON

oS2-2a, oS2-2b LOUDNESS
1 OFF
2 ON

oS4 REC SELECTOR
1 TUNER
2 CD
3 OFF
4 SOURCE
5 TAPE1 > 2
6 TAPE2 < 1

oS5, oS6, oS8 ~ oS11 INPUT SELECTORS
oS5 TAPE 2
oS6 TAPE 1
oS8 LINE
oS9 CD
oS10 TUNER
oS11 PHONO

pS1 POWER SW
1 OFF
2 ON

SYMBOL
Ceramic
(BC) Barrier Layer Capacitor
(BP) Bi-Polar Electrolytic
(M) Mylar
(NI) Non-Inflammable Resistor
(CR) Cement Resistor
(FR) Fusing Resistor
(TA) Tantalum Electrolytic
(PC) Polycarbonate Film
(PP) Polypropylene Film
(PS) Polystyrene

SYMBOL OF FUNCTION
(j) CONTROL
(k) POWER AMP
(l) PROTECTOR
(m) POWER SUPPLY
(o) SELECTOR
(p) FIXED PARTS
(w) LOGIC

⚠ is Safety part.
Use only replacement parts recomended by manufacturer.

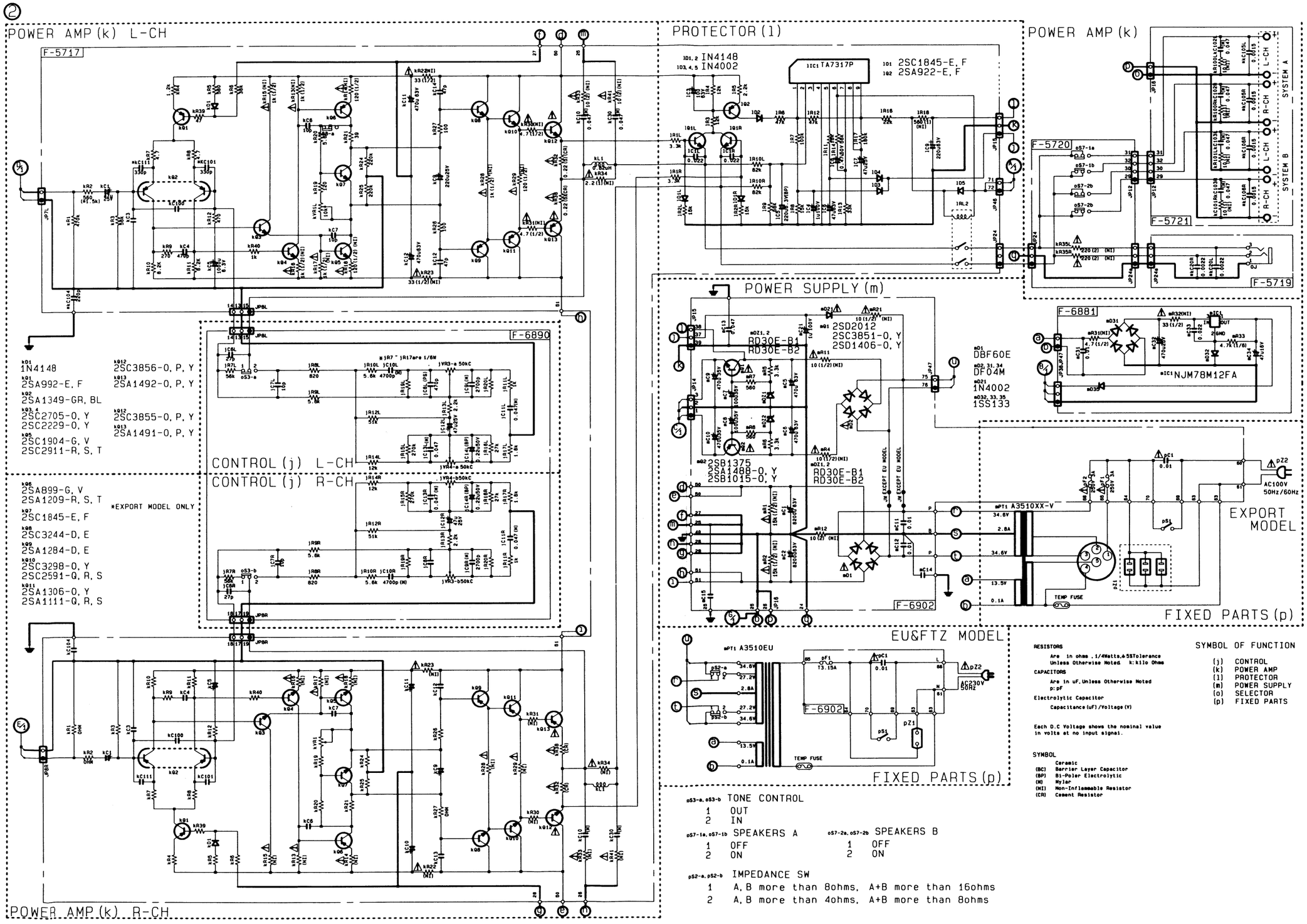
RESISTORS
Are in ohms , 1/8Watts,±5%Tolerance
Unless Otherwise Noted k:kilo Ohms

CAPACITORS
Are in uF, Unless Otherwise Noted
p: pF

Electrolytic Capacitor
Capacitance (uF) / Voltage (V)

Each D.C Voltage shows the nominal value in volts at no input signal.

6-4. AU-X317 POWER AM P. & POWER SUPPLY SECTION



RESISTORS
Are in ohms, 1/4Watts, ±5%Tolerance
Unless Otherwise Noted k:kilo Ohms

CAPACITORS
Are in uF, Unless Otherwise Noted
p:pF

Electrolytic Capacitor
Capacitance (uF) / Voltage (V)

Each D.C Voltage shows the nominal value in volts at no input signal.

SYMBOL
Ceramic
(BC) Barrier Layer Capacitor
(BP) Bi-Poler Electrolytic
(M) Mylar
(NI) Non-Inflammable Resistor
(CR) Cement Resistor

SYMBOL OF FUNCTION
(j) CONTROL
(k) POWER AMP
(l) PROTECTOR
(m) POWER SUPPLY
(o) SELECTOR
(p) FIXED PARTS

oS3-a, oS3-b TONE CONTROL
1 OUT
2 IN

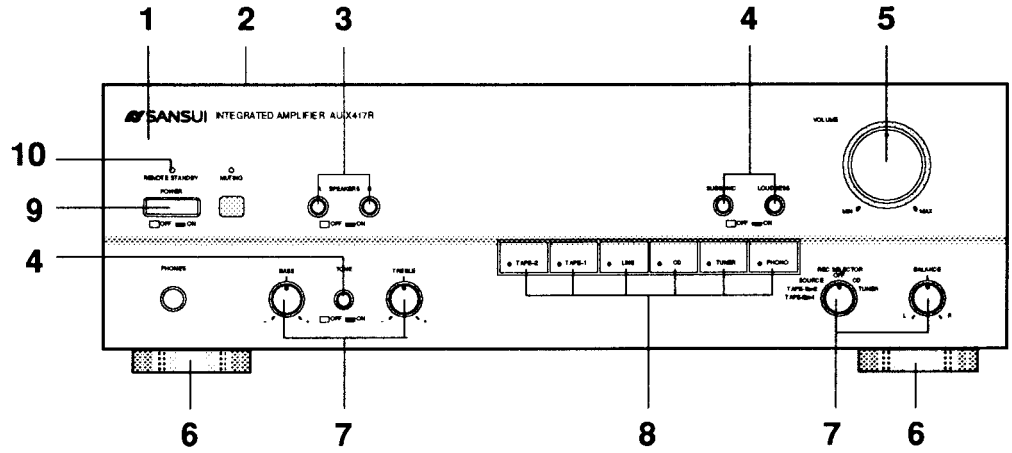
oS7-1a, oS7-1b SPEAKERS A
1 OFF
2 ON

oS7-2a, oS7-2b SPEAKERS B
1 OFF
2 ON

pS2-a, pS2-b IMPEDANCE SW
1 A, B more than 8ohms, A+B more than 16ohms
2 A, B more than 4ohms, A+B more than 8ohms

7. OTHER PARTS

•FRONT VIEW

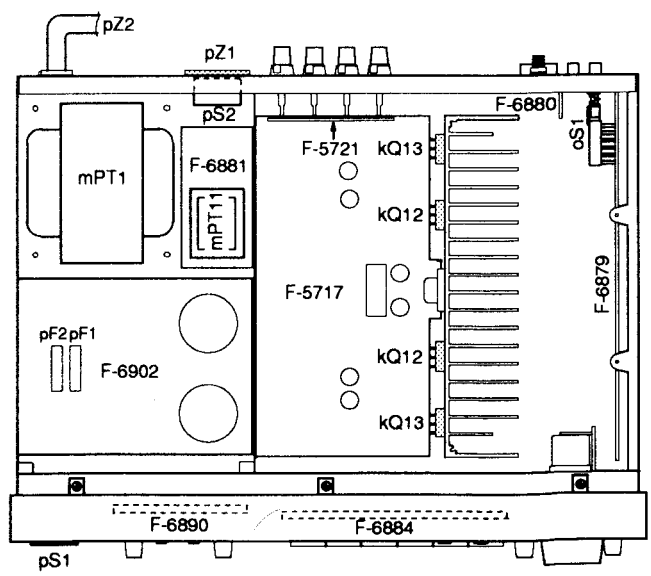


Parts No.	Stock No.	Description
1	85081700	FRONT PANEL Ass'y (AU-X417R)
	85082900	FRONT PANEL Ass'y (AU-X317)
2	84527200	BONNET
3	85075600	KNOB, SPEAKER
4	85075400	KNOB, LOUDNESS/SUBSONIC
5	85074000	KNOB, VOLUME

Parts No.	Stock No.	Description
6	85047200	LEG
or	85047300	LEG
7	85074100	KNOB, BALANCE/BASS/TREBLE etc.
8	85079400	KNOB, SELECTOR
9	85053710	KNOB, POWER SW.
10	85079700	INDICATOR,STANDBY

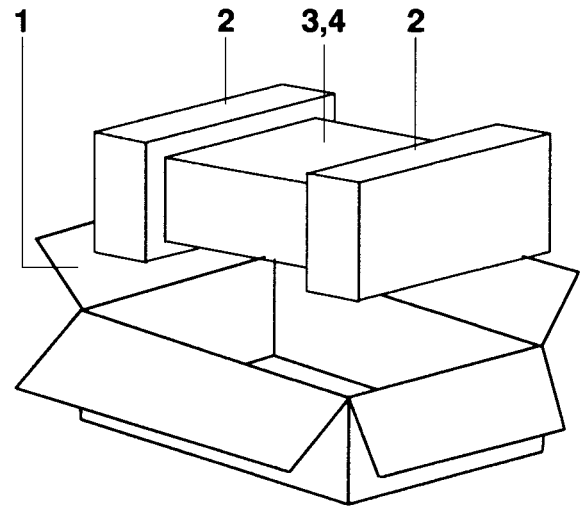
•TOP VIEW

Parts No.	Stock No.	Description
• TRANSISTOR		
⚠ kQ12	49263801	2SC3855,POWER TR. ,(xx.SS)
	48844200	2SC3856,POWER TR.,(UL.EU.GE)
⚠ kQ13	49263701	2SA1491,POWER TR. ,(xx.SS)
	48844100	2SA1492,POWER TR. ,(UL.EU.GE)
⚠ mPT1	83331409	POWER TRANSFORMER ,(xx.UL.SS)
	83331405	POWER TRANSFORMER ,(EU.IT.GE)
⚠ pF2	83021900	FUSE 3A,(xx,SS) / AU-X317
⚠ pS1	48113300	PUSH SW. / AU-X317
pS2	49543000	SLIDE SW.,SPEAKER SELECTOR, (EU.GE)
pZ1	46360100	AC OUTLET,(xx.UL.SS)
	83002500	AC OUTLET,(EU.GE)
⚠ pZ2	83003500	POWER SUPPLY CORD ,(xx.UL)
	83000600	POWER SUPPLY CORD ,(EU.GE)
	83034900	POWER SUPPLY CORD ,(SS)



8. PACKING LIST

Parts No.	Stock No.	Description
1	85082200	CARTON CASE (AU-X417R)
	85083000	CARTON CASE (AU-X317)
2	85090500	STYROFOAM PACKING
3	47859600	VINYL BAG
4	47428000	SHEET



9. ACCESSORY LIST

	Stock No.	Description
OPERATING INSTRUCTIONS AU-X417R		
	19087500	O.I. (E.)
or	82024200	O.I. (E.)
	19087700	O.I. (E.F.S.)
	19087800	O.I. (E.F.S.G.I.Sw.N.)
or	82024300	O.I. (E.F.S.G.I.Sw.N.)
	19087900	O.I. (P.)
	19087600	O.I. (T.)
	83334500	REMOTE CONTROLLER UNIT, RS-1490(AU-X417R Only)
	———	DRY BATTERY,UM-4x2

	Stock No.	Description
OPERATING INSTRUCTIONS AU-X317		
	19088000	O.I. (E.)
or	82024000	O.I. (E.)
	19088200	O.I. (E.F.S.)
	19088300	O.I. (E.F.S.G.I.Sw.N.)
or	82024100	O.I. (E.F.S.G.I.Sw.N.)
	19088100	O.I. (T.)

*NOTE

E.:	English Version
E.F.S.G.I.Sw.N.:	English, French, Spanish, German, Italian, Swedish and Netherlands Version.
E.F.S.:	English, French and Spanish Version.
P.:	Portuguese Version.
T.:	Old Chinese Character Version.
Ch.:	New Chinese Character Version.

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